

ES/WIC NUTRITION EDUCATION INITIATIVE

The Cooperative State Research, Education and Extension Service (CSREES) and the Food and Consumer Service's (FCS) ES/WIC Nutrition Education Initiative (NEI) was designed to change the behavior and promote the nutritional well being of the "neediest" of participants in the Special Supplemental Food Program for Women, Infants and Children (WIC). The specific objectives of the Initiative are: (1) Extension programs will increase interagency cooperation related to nutrition education in order to reach an increased number of the "neediest" WIC population; (2) participating individuals will acquire the knowledge and skills that contribute to nutritionally sound diets and a healthy lifestyle; and (3) participating individuals will acquire behaviors that contribute to nutritionally sound diets and healthy lifestyle.

The First Three Years

Funding for NEI began in 1993 in all 50 states and in American Samoa, Guam, Northern Marianas, Puerto Rico, and the Virgin Islands, with a total of 74 projects being funded over the course of three years. Seventeen states received funding for competitive projects, with one of those states developing two competitive projects.

Over 260 WIC clinics nationwide collaborated with the Cooperative Extension (CES) to serve over 141, 650 participants. Strong collaborations with Healthy Start, Best Beginning Programs, Le Leche League, the Children's Nutrition Research Center at Baylor College of Medicine, Department of Health and Human Services, Social Services, Healthy Mothers/Healthy Babies, TLC Program, SAFENET, Baby Love Program, Caring for Tomorrow's Children Program, and many others have proven to be essential in the effectiveness of this Initiative. Collaborations between WIC and Extension Service were also strengthened.

Among the audience reached were pregnant and/or parenting adolescents; breastfeeding women; women at-risk of substance abuse; women from single-parent households; women and children at risk of domestic violence; children up to 5 years old; women in homeless shelters; high-risk prenatal women; immigrant and migrant workers; and WIC clients in rural areas. Education reached diverse audiences — Native Americans, Southeast Asians, Hispanic families — as well Black and White families.

Nutrition education extended beyond the basic nutrition education to prenatal, infant, and toddler nutrition education; preventing iron deficiency; and parenting skills.

Diverse methods of program delivery were utilized during the Initiative. The different types of program delivery include: video storytelling, inter-generational teaching, compact disk, hospital/home breastfeeding visits, mailings, telephone teaching, classroom teaching, distance learning, hands-on workshops, and radio announcing.

Diverse Resources

Many of the states searched for existing materials and resources within CES that met the needs of its audiences and that could be used to implement the educational component of the programs. These existing curricula include *Eating Right is Basic* (ERIB), *Have A Healthy Baby*, *Professor Popcorn*, and *Great Beginnings*. These curricula were modified or revised to some degree to meet the needs of the project's audience and focus. Some states developed materials specifically for the purpose of carrying out the objectives of the ES/WIC Initiative, and they include:

- ▶ *Breastfed Babies Benefit the Whole World* - a poster developed by Iowa State University;
- ▶ *Breastfeeding Basics* - a series of five brochures developed by Iowa State University, encouraging a mother to consider breastfeeding and then providing information on starting and continuing breastfeeding;
- ▶ *Building a Peer Network of Nutrition and Breastfeeding Support for Rural Iowans* - a nutrition manual developed by Iowa State University Extension for pregnant and breastfeeding mothers;
- ▶ *Celebrate the Family! With Good Nutrition* - a series of Spanish lesson plans and workshops developed by Oregon State University Extension that center around the family;
- ▶ *Consider Breastfeeding* - a flip chart of the common concerns and advantages of breastfeeding, developed by Iowa State University;
- ▶ *Cooking Lite 'South of the Border'* - a teaching manual developed by the University of Missouri that consists of dietary guidelines for healthy eating, including a food guide pyramid, heart health reference material. It also provides nutritionally analyzed, healthy traditional Mexican recipes;
- ▶ *Early Experiences and Counseling for Effective Lactation (EXCEL)* - a curriculum developed by University of Guam Extension that includes eight lesson booklets covering prenatal and breastfeeding education;
- ▶ *Food and Money Basics* - a money management module developed by the University of Hawaii that focuses on household budgeting. It is for beginners who are willing to practice prioritizing choices and making decisions.
- ▶ *Growing* - a nutrition/parenting education resource developed by Cornell University Extension targeted for pregnant women and parents of newborns to five years old;
- ▶ *Haitian Nutrition Initiative* - a curriculum developed by University of Florida Extension in Creole for pregnant and breastfeeding Haitian women;
- ▶ *In-Home Breastfeeding Support Program* - a training manual for paraprofessionals developed by North Carolina State University Extension focusing on in-home support for breastfeeding WIC mothers;
- ▶ *La Cocina Saludable* - a bi-lingual resource guide developed by Colorado State University Extension that contains a free-standing bilingual flip chart; Hispanic Food Guide Pyramid; handy kitchen utensils for incentives;
- ▶ *Learn-At-Home EFNEP Course* - a series of fact sheets developed by University of Massachusetts that compliments the Iowa-Kansas Adult EFNEP Curriculum;

- ▶ *Madres y Ninos Mejores (Better Mothers and Children)* - a bi-lingual nutrition education resource on an interactive compact disk, developed by Texas A&M University Extension directed to low-literacy, limited resource families;
- ▶ *Mission Nutrition* - a nutrition curriculum developed by Kansas State University Extension that reflects the learning styles and needs of various audiences and to ensure observable and documentable outcome;
- ▶ *Nutrition...Making Life Healthy* - a nutrition videotape series developed by University of Minnesota Extension with supporting material;
- ▶ *Nutrition Curriculum and Activities for Adults* - an adult curriculum developed by the University of Kentucky that emphasizes nutrition, exercise, rest, routine health care and guidelines in the areas of smoking, drugs and alcohol, and reviews nutritional needs, age-appropriate servings and child development skills as they relate to eating and self-feeding;
- ▶ *Nutrition Curriculum and Activities for Preschoolers* - a youth curriculum developed by the University of Kentucky that consists of 9 stand-alone lessons that includes food safety, the importance of meals and snacks, and identifying foods and where they belong in the Food Guide Pyramid;
- ▶ *Rumy's Magic Pyramid* - an interactive nutrition education curriculum developed by the University of Rhode Island for early childhood;
- ▶ *Smart Choices* - a curriculum developed by University of Tennessee Extension emphasizing the choices a pregnant women can make in her life that improve her chances of having a healthy baby;
- ▶ *Sophia's Choice* - A series of videotapes in Southeast Asian languages developed by the University of Rhode Island to promote breastfeeding;
- ▶ *Teen Parents for Healthy Children* - a Food Guide Pyramid activity and two interactive displays developed by Colorado State University — one designed to teach the food Guide Pyramid — the other focuses on the appropriate introduction of solids to infants;
- ▶ *Un Bebe Saludable: Un Regalo Muy Especial (A Healthy Baby: A Very Special Gift)* - a bi-lingual baby feeding calendar developed by University of Maryland Extension with behavior re-enforcing stickers and tip sheets for the first six months;
- ▶ *Videotape Series* - a nutrition videotape series developed by New Mexico State University Extension in English, Spanish, or Navajo featuring *Eat Right For Life*, *Healthy Eating for a Healthy Baby*, *Great Food Mixes You Can make at Home*, *Baby Talk*, *Low-Fat Native Foods*, and *The Food Guide Pyramid - Building a Healthy Body*;
- ▶ *Vietnamese Nutrition Education Materials* - a series of flip charts developed by University of California Extension on each of the basic food groups and one on nutrition for a healthy mother and baby;
- ▶ *WIC Kitchen* - a nutrition education program developed by Kansas State University, was designed to improve the quality of WIC participants' diets and those of their family. The curriculum promotes healthy eating through the development of basic food preparation skills;
- ▶ *WINS (Women Improving Nutritional Status)* - a curriculum developed by University of Florida that focuses on 5 nutrition lessons.

Sustainability

Recent data¹ from the ERS4 evaluation/reporting system shows that 64,264 persons from 17,587 families are still being directly or indirectly reached through the ongoing efforts of this Initiative. Ninety-eight percent of the participants were enrolled in one or more food assistance programs; 84% were taught in a group setting, and 11% were taught in an individual setting. Other characteristics of the participants are shown below in figures 1 and 2.

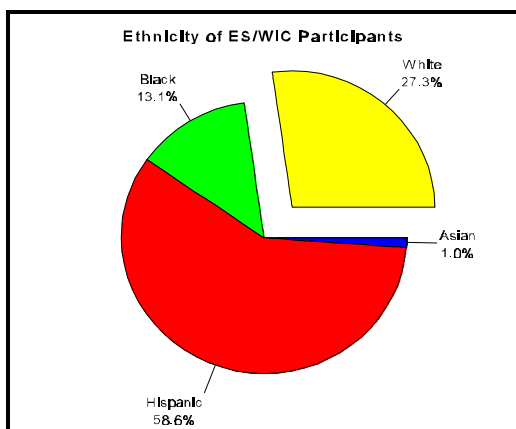


Figure 1

American Indian represented < 1% of audience

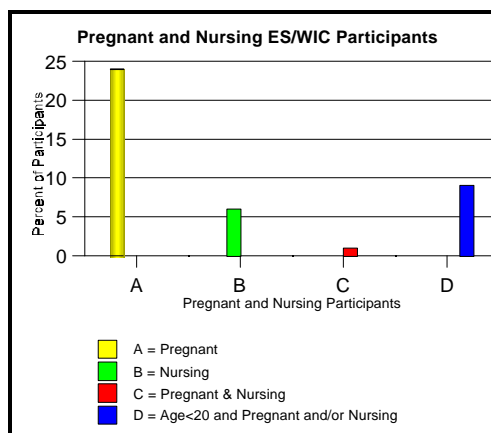


Figure 2

Data from the EFNEP Evaluation/Reporting System from 2,552 participants revealed that before intervention, only 28% of the participants had a diet that provided even half the recommended number of servings of breads and cereals and at least one serving from each of the other food groups. After ES/WIC lessons, 54.2% of the participants had achieved this minimal level of intake. Ninety-three percent (93%) showed positive change in any food group at exit.

Further results showed that 85% of the participants showed improvement in one or more food resource management practices (i.e. plans meals, compares prices, does not run out of food or uses grocery lists); 90% showed improvement in one or more nutrition practices (i.e. plans meals, makes healthy food choices, prepares foods without adding salt, reads nutrition labels or has children eat breakfast); 69% showed improvement in one or more of the food safety practices (i.e. thawing and storing foods properly).

Based on data from an entry and exit assessment of eleven indicators, only 6% of the participants achieved acceptable scores in the areas of food resource management, nutrition practices and food safety. At the end of the intervention, 29% had achieved this goal (refer to figure 3). Dietary intake of six key nutrients that are often limited in the diets of low-income audiences were also measured. As a result of ES/WIC, intake levels for each nutrient increased (refer to figure 4).

¹Consists of data from 28 states

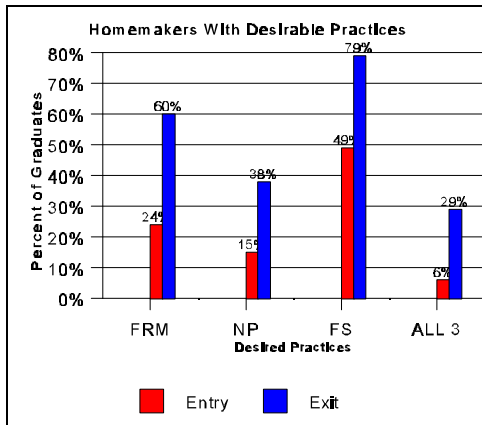


Figure 3

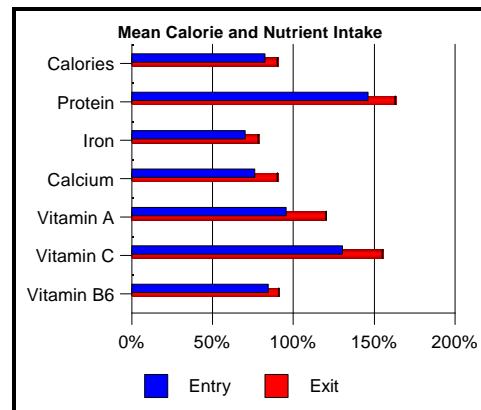


Figure 4

Perinatal data from 564 mothers showed that:

- 56% of the participants had gained an appropriate amount of weight during their pregnancy.
- 26% of the participants planned to breastfeed.
- 94% of the participants went to full-term with their pregnancies.
- 95% of the infants weighed 5.5 pounds or more.
- The average number of days the mother stayed in the medical facility was 2.3 days.
- The average number of days the infant stayed in the medical facility was 3.2 days.
- Major curricula used were *Have A Healthy Baby*, *Eating Right is Basic*, and *Today's Mom*.

As evidenced above, many states are still continuing the efforts of this Initiative, some specific sustainable projects are described below:

Arizona

As the final part of the Rhode Island project, they developed *Rumy's Magic Pyramid*, an interactive nutrition education curriculum for early childhood. Based on the theory that children learn best through play and repetition, this curriculum was developed for WIC and head Start children. The curriculum includes a soft sculptured, manipulative doll, 5 short animated videos, 5 lesson plans with related activities, and inter-active worksheets for parents and children, all of which reinforce the same key concepts of energy, growth, and wellness. The videos feature "Rumy" and follows the adventures of four young children as they explore the various levels of the "magic" pyramid.

The curriculum was tested on 291 four-year old head Start and WIC children in 7 different urban locations in Rhode Island. Pre- and post-comparisons were made between 165 children who participated in the Rumy curriculum and 126 children who received no treatment. Both groups answered a 13-point questionnaire that measured food group recognition, food acceptance and food group functionality. Analysis of the results indicated a significant increase in ability to distinguish food groups using the soft sculpture doll (Rumy) as opposed to picture cards, a significant increase

in acceptance of a variety of new foods, and no change in understanding of specific functions (growth, energy, wellness) performed by certain food groups.

Rumy's Magic Pyramid is currently available for use in all Head Start and WIC offices in Rhode Island. It is used by EFNEP trained Head Start teachers as well as EFNEP community nutrition assistants. In addition, it was sent to EFNEP specialists nationwide and is currently in use in several states including Head Start in Illinois. In the fall, it will again become an integral part of the curriculum in all urban Head Start programs in the city of Providence.

Colorado

The concept of a new CD-ROM nutrition program for bi-ethnic populations, emerged from the community-based ES/WIC program, *La Cocina Saludable* (The Healthy Kitchen). La Cocina Saludable targeted low income Hispanics (parents) in southern Colorado, an agricultural-dependent and economically repressed region with a high Hispanic population. Following the program's implementation, participants in the program expressed an interest (through focus group discussions) in a nutrition education program for their children. As a result, this program will be implemented in the same locations as La Cocina Saludable. It is hoped that the two programs--child and parent--will eventually be integrated, as well as expanded to other regions around the country.

The prime objective of this project is to develop a CD-ROM nutrition education program for 4th grade children within highly Hispanic regions of Colorado with the following conditions:

- ▶ The program must be culturally and linguistically appropriate;
- ▶ The Food Guide Pyramid will be the focus of the CD-ROM program;
- ▶ The program should be developed with three different cultural formats, low-acculturation, high acculturation, and Euro-American;
- ▶ Reading, writing, and math should be incorporated into the program;
- ▶ Format and platform should be partially determined by results from a formative evaluation;
- ▶ The messages and activities must be age-appropriate (for the cognitive stage of 4th graders); and
- ▶ The CD-ROM program may be disseminated and used in other geographic regions with high Hispanic populations.

Kansas

In Kansas, the ES/WIC funding went toward the development and revision of the WIC Kitchen/Mission Nutrition Program. It was revised in 1997 to include more audience participation and renamed that year. Presently, 52 FNP counties in Kansas and all three EFNEP counties use Mission Nutrition as a core of their teaching. It is taught to Latino audiences through interpreters in some counties, is used in high schools as part of an education program for pregnant teenagers, and is offered by WIC programs across the state. It is taught to audiences of elderly participants, and even used in some classes in prisons/retention centers.

Massachusetts

Massachusetts EFNEP developed and piloted the "Learn At Home" home study course with ES/WIC initiative funds. The course was used to recruit and teach WIC participants who were not able to attend pre-formed groups.

Since then, the course has flourished in its methods of teaching. It still continues to be used as a home study course for participants who are not able to attend group lessons due to either conflicts in scheduling or problems related to transportation. The course is used as a tool to retain current pre-formed group participants. In the past, participants were terminated from the program due to their inability to consistently attend programs. Using Learn At Home lessons, nutrition educators continue instruction through telephone/mail contacts for missed lesson topics even though the participant has left the group meetings. This method, bolsters the graduation rate and lowers the termination rate in Massachusetts.

Thirdly, as a supplement, the Learn At Home series was incorporated into the regular EFNEP curriculum, making the curriculum more comprehensive. The original curriculum (adapted from Iowa/Kansas) contained mostly recipes. The Learn At Home series contains more nutrition information. Finally, the Learn At Home individual lessons have also been used in many FNP programs in Massachusetts. Massachusetts has received positive feedback on the Learn At Home series from local agencies and EFNEP programs nationwide. Over 30 state Extension EFNEP programs and community agencies have purchased and used the Learn At Home lesson series.

Future developments include: to revise/update the curriculum and Learn At Home series to continue to meet the needs of participants and incorporate additional topics into the series such as physical activity and the new dietary guidelines.

New Mexico

New Mexico used their ES/WIC funding to produce several bilingual (English/Spanish) videos. These included: *Baby Talk* (feeding babies based on their signals of hunger and satiety); *Healthy Eating for a Healthy Baby* (healthy eating during pregnancy); and *Food guide Pyramid* (using the Food Guide Pyramid in planning meals and snacks for young children). These videos continue to be used in Extension programs such as EFNEP and FSNEP and in WIC offices in New Mexico and other states.

North Carolina

One of the programs developed through ES/WIC funds in North Carolina was the In-Home Breastfeeding Support Program. Since the ending of the Initiative funds, funding has come from local county governments, local hospitals, local grants, private philanthropic organizations, etc. In fiscal year 1999, funding for the program was received from FSNEP for the first time. As a result, the program is currently in 33 counties.

The program model remains the same as developed through ES/WIC dollars. Paraprofessionals with personal breastfeeding experience are hired to promote breastfeeding and offer new mothers support in overcoming common breastfeeding problems. These paraprofessionals receive all the initial training provided for new EFNEP paraprofessionals. In addition, they receive 6 days of lactation education training. Once trained, they teach infant feeding classes to pregnant women, visit new mothers in the hospital daily, make home visits to all mothers within 72 hours of hospital discharge. Additional support is provided either through additional home visits or telephone consultation as needed. The program is a natural companion for the traditional EFNEP program. Breastfeeding mothers are motivated learners and are eager to participate in EFNEP to learn more about nutrition and feeding their families better. The Breastfeeding Support paraprofessionals refers mothers to EFNEP, the EFNEP paraprofessionals encourages the mothers to continue to breastfeed. The combination is truly WIN/WIN for both programs.

Lessons Learned

Many lessons were learned as a result of the hard work that went into meeting the objectives of the ES/WIC projects that can be shared in case a project is duplicated or transferred to a different location. Some of the lessons learned include:

Breastfeeding Projects

In Arizona's breastfeeding project, initially, the first contact with a client after enrollment was to be in the hospital shortly after delivery. Within one month of the project the staff realized that this contact needed to occur prior to delivery. The prenatal home visit became one of the most important home visits in terms of providing critical information for successful breastfeeding and in establishing effective rapport between the client and the paraprofessional breastfeeding counselor.

In Iowa's peer breastfeeding project, they found that the project could be applicable to peer counseling programs in the workplace. Often returning to work is stated as a reason to stop breastfeeding. Establishing peer relationships in the workplace could improve breastfeeding duration. Often mothers are not aware of other mothers in their workplace who have breastfed. Pooling their efforts could make the workplace more breastfeeding friendly.

Also, in Iowa they found that the prenatal connection is vital in promoting a successful breastfeeding experience. That time before the birth can be used to build rapport and go over the simple basics of breastfeeding — how to position the baby, how to help the baby latch on, and how often to feed the baby. A strong community coalition is essential to a successful breastfeeding peer counseling program as well. There are often obstacles to breastfeeding in communities which only a coalition can address. This may be especially true in smaller rural communities. Even in metropolitan areas breastfeeding peer counseling needs the support of a task force or coalition of people who serve mothers and babies.

Pregnant Adolescents

In Arkansas' prenatal and infant project, that targeted pregnant and parenting teens and women from single-parent households, the project director and nutrition educator believe a major reason they did not see a greater improvement in dietary intake among the adolescent population is their lack of input into family meals while living with a parent or guardian. Future efforts should focus on ways to include parents of pregnant adolescents in the educational programming. Additionally, more effort should be directed toward developing meal planning, and food preparation skills in adolescent participants.

Likewise, in Colorado's nutrition education project that targeted pregnant and single-parent teens, one factor taken into consideration is that most of the teens in their study lived at home and weren't in control of food purchasing or cooking. This further complicated their ability to make changes in their dietary behavior. Another factor preventing dietary change is the teens' views of food and nutrition. Based on focus group findings and comments made by teens in the pilot groups, nutrition was not a primary focus. Other issues were more important in their lives. Because they were relatively healthy, they felt no sense of urgency and felt they could worry about eating right later in life.

Homeless Shelters

In Connecticut's project that focused on nutrition for women in homeless shelters, they learned that support from shelter staff is very important for successful programs. Many shelters run on a shoestring, and the turnover of staff is tremendous. Ideally, shelter staff would assist in marketing and recruitment for nutrition education programs. With limited staff, it might have been better to work intensively at only one site until EFNEP presence was considered a fixture. Instead, they took a broader approach and worked with shelters in many areas of the cities in order to access the WIC population in various neighborhoods.

Radio Campaigns

In Oregon, the Extension/WIC Hispanic radio nutrition education campaign was a pilot project. Although evaluation data are limited for a number of reasons, feedback from both staff and clientele suggests that radio is an appropriate method for reaching the Hispanic audience that should be implemented in the future. The following are recommendations for future radio campaigns: 1) recruit a bilingual Hispanic staff member; 2) develop an inter-agency working relationship before starting the project; 3) use an advisory committee to guide program development; 4) allow sufficient time for program development and communication (including tailoring the program to each WIC county program); 5) collaborate with staff who have expertise in radio production and broadcast; 6) include a phone number in radio spots (either the local WIC number or an 800 number) for listeners to obtain further information; 7) broadcast the radio spots as paid announcements; 8) broadcast spots frequently; 9) give release time for WIC staff to assist with publicizing and evaluating the spots; 10) arrange for answering machines (with Spanish instructions) to receive calls from listeners during weekend broadcasts of spots.

Project Funding

Competitive Projects:

Funds were awarded only to projects with the highest scores given during the application screening and review process. Proposals were thoroughly screened and reviewed in the areas of Design and Implementation; Evaluation; Reporting; Coordination and Collaboration; and Budget and Staffing. Seven-teen states were awarded federal funding for their projects, and funds were expended as follows:

Salaries/ Wages	Fringe Benefits	Materials/ Supplies	Travel	Publications/ Printing	Equipment	Other	Total
67%	8%	7%	7%	3%	1%	7%	100%

Funds were allocated to the competitive projects as follows:

State	Fy93	Fy94	Fy95	Total
California	\$99,980	\$135,440	\$180,747	\$415,987
Colorado	\$97,765	\$126,953	\$173,832	\$398,550
Florida	\$89,892	\$135,837	\$0	\$225,729
Georgia	\$57,380	\$68,665	\$75,000	\$201,045
Guam	\$73,460	\$149,345	\$170,034	\$392,839
Iowa	\$61,923	\$66,000	\$57,200	\$185,123
Maryland	\$89,004	\$159,674	\$172,947	\$421,625
Michigan	\$74,588	\$199,950	\$200,000	\$474,538
Minnesota	\$37,000	\$43,074	\$46,183	\$126,257
Nevada	\$100,000	\$100,000	\$200,000	\$400,000
New York	\$94,500	\$136,786	\$136,786	\$368,072
North Carolina	\$0	\$25,000	\$26,800	\$51,800
North Carolina	\$98,357	\$157,000	\$200,000	\$455,357
Oklahoma	\$100,000	\$180,000	\$189,312	\$469,312
Rhode Island	\$61,962	\$60,974	\$72,897	\$195,833
South Carolina	\$100,000	\$109,157	\$129,068	\$338,225
Texas	\$98,000	\$100,051	\$112,995	\$311,046
Washington	\$98,842	\$151,430	\$163,498	\$413,770
Totals	\$1,432,473	\$2,105,336	\$2,307,299	\$5,845,108

Plan of Work (formula-funded projects):

Funds were awarded to each state/territory upon plan of work submission. Each state/territory was awarded \$30,000/year over a period of three years toward their project; a 50% match per year was met by each state.

54 states/territories @ \$30,000/year for 3 years	\$4,860,000.00
1 territory (American Samoa) \$84,083 over a period of 3 years	84,083.00 ²
1 territory (Micronesia) \$60,000 over a period of 2 years	60,000.00 ³
An additional \$5,519 per state/territory in FY94	309,064.00
	<u>\$5,313,147.00</u>

Table 1 provides a breakdown of the distribution of funds by fiscal year.

Yearly Distribution of ES/WIC Nutrition Education Initiative Funds				
Allocation	FY 93	FY 94	FY 95	Totals
POW Projects	\$1,644,083	\$1,989,064	\$1,680,000	\$5,313,147
Competitive Projects	\$1,432,473	\$2,105,336	\$2,307,299	\$5,845,108
Administrative Costs	\$ 150,000	\$ 170,600	\$ 170,000	\$ 490,600
Alice Aycock Poe Theater ⁴	\$ 279,361	\$0	\$0	\$ 279,361
ERS Contract ⁵	\$0	\$0	\$ 102,923	\$ 102,923
Unspent	\$ 24,083		\$ 4,178	\$ 28,261
Totals	\$3,530,000	\$4,265,000	\$4,264,400	\$12,059,400

Table 1.

April 2000

²Initially did not submit a plan of work for FY93, causing the unspent dollars to be transferred into the competitive funds account. Re-applied for remaining funds after competitive awards had been awarded

³Did not submit a plan of work for FY93.

⁴Congressionally mandated special project to be funded out of the first year appropriation. Funded the addition of an innovative nutrition education unit that now provides year round training for children and adults in Central and Eastern North Carolina. Project has been completed.

⁵Funds were used to help secure additional funding needed to enhance the current National EFNEP Reporting System so that progress of breastfeeding projects could also be measured.

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